FY 2011 Capital Budget TPS Report 54383v1

Agency: Commerce, Community and Economic Development

Grants to Unincorporated Communities (AS 37.05.317)

Grant Recipient: Native Village of Chenega Bay

Project Title: Project Type: Equipment and Materials

Chenega Bay - Backhoe Loader

State Funding Requested: \$125,000 House District: 5 / C

One-Time Need

Brief Project Description:

The village needs a new backhoe loader to perform general maintenance and construction support and to assist with snow and ice control

Funding Plan:

Total Cost of Project: \$125,000

There is no other funding needed

Detailed Project Description and Justification:

A new backhoe loader is needed to provide general maintenance and construction support for village services, and to assist with snow and ice control on local roads. This piece of equipment would replace an existing, smaller backhoe loader that is over 20 years old.

The village just completed a \$3 million dollar road project to pave almost 2 miles of roads. This project was completed with a combination of BIA and Denali Commission funding. In 2011, work will be going forward for partial completion of a new subdivision road to develop housing lots for the village. The village's existing equipment is very old, was originally bought used and is no longer able to provide adequate or reliable road maintenance.

Current equipment is 1980's D3 Dozer and a 1991 Backhoe 416 Caterpillar. The dozer can no longer be used on the new reclaimed asphalt pavement – its tracks will tear up the road surface. A new backhoe loader (combined with a road grader) would allow the village to maintain the roads properly and in a timely manner. Efforts to obtain surplus equipment have been unsuccessful.

Project Timeline:

2011 Spring

Entity Responsible for the Ongoing Operation and Maintenance of this Project:

Chenega IRA Council

For use by Co-chair Staff Only: \$125,000 Approved FY 2011 Capital Budget TPS Report 54383v1

Grant Recipient Contact Information:	
Name:	Chenega IRA Council
Address:	PO Box 8079

Chenega Bay, AK 99574 Phone Number: (907)677-4960

Email: chenegaira@yahoo.com

Has this project been through a public review process at the local level and is it a community priority? X Yes No

Contact Name: Kimberly Contact Number: X3473

For use by Co-chair Staff Only:
5:22 PM 5/4/2010

FY11 Capital Project Request Form for District: C HD 05 Senator Kookesh and Representative Thomas

Grant recipient name:

Chenega IRA Council

Physical location of project:

Chenega Bay, Alaska

Project Title:

Backhoe Loader

Brief Description of Project:

The village needs a new backhoe loader to perform general maintenance and construction support, and to assist with

snow and ice control.

Total Cost of Project from Inception to Completion:

\$125,000

State Fiscal year 2011 Funding Request from the State:

\$125,000

If your project is funded this year, will you be requesting state funding again? No

Funding Plan:

Funding secured, as well as the year it was secured:

Funding Source	Amount Secured	State Fiscal Year
Federal Funds	0	
State Funds	0	
Denali Commission	0	
Rasmuson Foundation	. 0	***************************************
Local Fund	0	
Other Funds	0	

Non-state funding currently requested but not yet secured:

Funding Source	Amount Requested	State Fiscal Year
Federal Funds	0	
Denali Commission	0	
Rasmuson Foundation	0	, , , , , , , , , , , , , , , , , , , ,
Local Fund	0	
Other Funds	0	

Additional funding needed to complete this project, from whom funding is being requested:

Funding Source	Amount Needed	State Fiscal Year
Federal Funds	0	
Denali Commission	0	
Rasmusen Foundation	0	
Local Fund	0	
Other Funds	0	

Detailed description and project justification: A new backhoe loader is needed to provide general maintenance and construction support for village services, and to assist with snow and ice control on local roads. This piece of equipment would replace an existing, smaller backhoe loader that is over 20 years old.

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Project time-line and when expenditures will occur:

Summer/Fall 2011

Who will be responsible for providing the ongoing maintenance and operation costs?

Chenega IRA Council

Grant Recipient Contact Information:

Contact name:

Michael J. Vigil, IRA Council President

Phone #:

(907) 573-5132

Mailing Address:

Box 8079

Chenega Bay, Alaska 99574

E-mail:

chenegaira@yahoo.com

Product

420E CONFIGURATION 4

\$ 125,000.00

Qty

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Standard Equipment:

BACKHOE

14'4" Center pivot excavator style backhoe

Pilot operated joystick hydraulic controls with pattern changer valve

Pilot operated stabilizer controls

Boom transport lock

Swing transport lock

Grouser type stabilizer shoes

Anti-drift hydraulics (Boom, Stick and E-Stick)

Cat Cushion Swing(tm) system

ELECTRICAL

12 volt electrical start

120 ampere alternator

Horn

Backup alarm

Hazard flashers/turn signals

Halogen head lights (4)

Halogen rear flood lights (4)

Stop and tail lights

Audible system fault alarm

Key start/stop system

880 CCA maintenance free battery

Battery disconnect switch

External/internal power receptacles (12v)

Diagnostic ports for engine and machine Electronic Control Modules

LOĂDER

Bucket level indicator

Lift cylinder brace

Return-to-dig (auto bucket positioner)

Self-leveling loader with single lever control

Transmission neutralizer switch

Single Tilt Loader

OPERATOR ENVIRONMENT

Lighted gauge group

Interior rearview mirror

Rear fenders

ROPS canopy

2-inch retractable seat belt

Tilt steering column

Steering knob

Hand and foot throttle

Automatic Engine Speed Control

One Touch Low Idle

Floor mat

Coat hook

Two lockable storage areas

Drink and lunch box holders

Air suspension seat

POWERTRAIN

Cat C4.4 93HP Direct Injection Turbo Charged engine with ACERT Technology, US EPA Tier 3/EU Stage IIIa Emissions compliant Water separator with service indicator

Thermal starting aid system

A dry-type axial seal air cleaner with integral precleaner, automatic dust ejection system, and filter condition indicator

Hydraulically boosted multi-plate wet disk brake with dual pedals and interlock

Differential lock

Drive-line parking brake

High Ambient Cooling Package

Torque converter

Transmission--four speed synchro mesh with power shuttle and neutral safety switch

Spin-on fuel, engine oil, and transmission oil filters

Outboard planetary rear axles

Open Circuit Breather

OTHER STANDARD EQUIPMENT

Hydrostatic power steering

Tool box

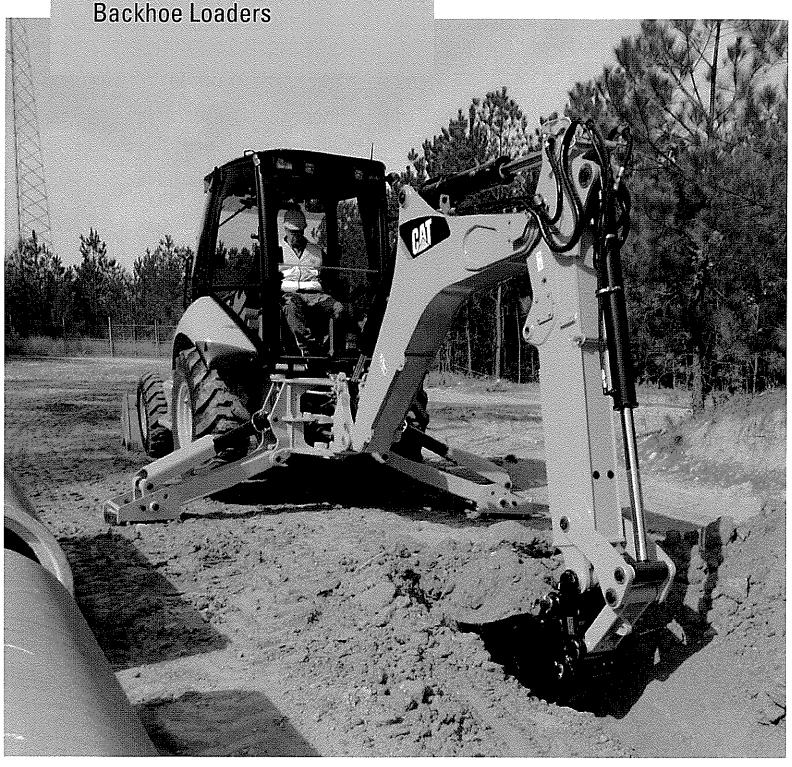
Transport tie-downs

Ground line fill fuel tank with 45 gallon capacity

Rubber impact strips on radiator guards Bumper CD-ROM Parts Manual Backhoe Safety Manual Operations and Maintenance Manual Lockable hood Valve stem protection **HYDRAULICS** Load sensing, variable flow system with 43 gpm axial piston pump 5 micron spin-on hydraulic filter O-ring face seal hydraulic fittings Caterpillar XT-3 hose Hydraulic oil cooler Pilot control shutoff switch PPPC, Flow-sharing hydraulic valves **ANTIFREEZE** Long Life Coolant -30C (-20F) Option Package Consists: E-STICK HYDRAULICS, BH, 6 FUNCTION CAB, DELUXE W/AC POWERTRAIN,93 HP,4WD,STD SHIFT COUNTERWEIGHT, 1075 LBS TIRES 4WD BIAS FIRESTONE BATTERY, HEAVY DUTY HEATER, ENGINE COOLANT, 120V CONTROL, IT AUX ATTACHMENTS RIDE CONTROL 1 **Your Selected Options:** BELT, SEAT, 2" SUSPENSION STABILIZER PADS, FLIP W/GUARD 1 MANUALS, ENGLISH 1 BUCKET, HOE, (NONE) 1 DOMESTIC TRUCK 1 Your Selected Work Tools: SINGLE TILT MACHINE 1 BUCKET-HD ROCK, 24", 7.0 CFT 1 QUICK COUPLER, PIN PULLER, CASE THUMB TINES THUMB, TINE, B 3 1 BUCKET-MP 1.4 CYD, W/ BOCE, IT 1 Total MSRP*: Other Info:

420E/420E IT Backhoe Loaders

CATERPILLAR®



Engine		
Engine Model	Cat® C4.4 AC	ERT® DIT
Gross Power @ 2,200 rpm - SAE J1995	75 kW	101 hp
Net Power @ 2,200 rpm - SAE J1349	69 kW	93 hp
Net Peak Power @ 1,800 rpm - SAE J1349	71 kW	95 hp

vveignts		
Operating Weight – Nominal	6895 kg	15,201 lb
Operating Weight – Maximum	11 000 kg	24,251 lb
Backhoe		
Dig Depth – Standard	4360 mm	14 ft 4 in
Dig Depth – E-Stick Extended	5456 mm	17 ft 11 in

420E/420E IT Features

World-Class Cab

Standard air suspension seat, extra legroom and more visibility make you feel comfortable — for a safer, more productive work day.

Easy Joystick Control

Ergonomic joystick controls provide smooth operation and low operator effort.

Improved Power Train

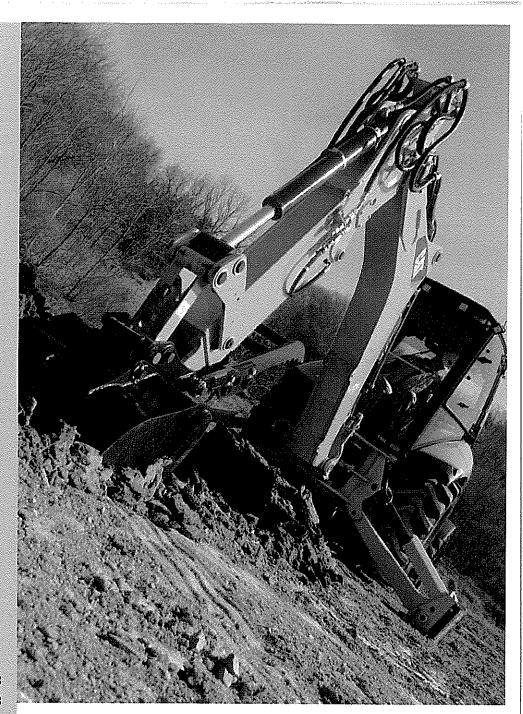
Top travel speed of 25 mph/40 km/h so you can get on and off the site faster.

More Work Tools

Do more jobs with one machine. The thumb lets you grip, grab and sort virtually any material.

Contents

Operator Station	
Controls	
Hydraulics	
Ride Control	
Power Train	
Loader	
Backhoe	
Serviceability	
Customer Support	
Technology Products	
Work Tools	
420E/420E IT Specifications	
420E/420E IT Standard Equipment	
420E/420E IT Optional Equipment	
Notes	



With standard pilot-operated joystick controls, a more comfortable operator station, extendible stick design and increased performance, the 420E/420E IT lets you get more done with less effort.

Operator Station

Comfort, visibility and style.

Experience a whole new level of comfort with the spacious E-Series operator station. The ergonomic, automotive style enhances the operator environment. A narrow front dash provides excellent visibility to the front bucket. Reduced vibration keeps operator fatigue low. In-cab storage compartment and lockable tool and battery box provides ample space for tools and belongings. The operator station also features an easy-to-read gauge cluster and increased legroom.

Automatic Engine Speed Control

This new feature reduces engine speed when the backhoe is not in use to conserve fuel and lower environmental noise.

Air Suspension Seat

The standard air suspension seat is adjustable for a greater operating range and more comfortable ride. A switch allows the seat to be tailored to support differing body weights. Adjustable seat height accommodates all operators. The deluxe cab air suspension seat also has an adjustable back support, lumbar support, seat cushion extension, seat cushion tilt and vertical and angle adjusting armrests.

Improved Air Conditioning

The improved air conditioning system features enhanced air distribution and performance for a more comfortable work environment. A nearly 20% increase in air flow combined with improved louver locations provide superior operator comfort.

Configurations

The 420E operator station is available in 5 options – ROPS Canopy, ROPS Canopy Plus, Standard Cab, Deluxe Cab and Deluxe Cab with Air Conditioning. See Standard and Optional Equipment for details.







Controls

Reduce fatigue.

Low effort, ergonomic excavatorstyle joystick controls provide smooth modulation. Thumb rollers provide convenient, fingertip control of auxiliary functions, eliminating pedals on the floor.

One-Touch Low Idle

Located on the right hand joystick, this button reduces engine speed to low idle. This new feature will reduce fuel consumption and improve communication with ground crew.

Pattern Selector

The pattern selector switch, located in the cab, allows the operator to change from excavator to backhoe control pattern simply by pressing a button. This allows the operator to use the pattern they are most familiar with to get more done, faster.

Hydraulics

Load-sensing system matches power to demand.



The 420E has a load-sensing, closed center hydraulic system, which closely matches power and flow to the demand needed by the implements. So whether you're in full trenching mode, or delicately digging around services, you are in control. In applications such as production trenching, speed is important and the system will match the flow needed to get the job done quickly and efficiently. The load-sensing hydraulic system also delivers:

- · A cooler hydraulic system
- · Better fuel efficiency
- · Quieter operation
- · Reduced wear on components

Cat XT-3 ES ToughGuardTM hoses combined with Cat couplings and O-ring face seal fittings provide a leak-free system. The 420E also features new flow-sharing hydraulic valves, ensuring proportional flow of oil to all hydraulic cylinders, providing greater control and improving multifunction performance.

Ride Control

Delivers even greater operator comfort.

The optional Ride Control System smooths the ride in all conditions, including load and carry, highway roading, or simply moving around the job site. It reduces machine loping, providing a smooth and stable ride for increased operator comfort and reduced operator fatigue. The Ride Control option improves material retention in the loader bucket for increased productivity and a cleaner job site.

The system is easily engaged by a switch on the front console. The Ride Control switch has three positions, ON, OFF and AUTOMATIC. In the automatic position, the Ride Control engages automatically as the travel speed increases. At low speed, the system disengages for loading, grading or finishing applications.



Power Train

Built for performance, power, reliability and fuel efficiency.

Cat Engine

The 420E features the Cat® C4.4 DIT (Direct Injection Turbocharged) engine with ACERT® technology and meets all U.S EPA Tier 3/EU Stage IIIa emissions requirements. The increased horsepower and torque rise deliver improved loading and roading performance.

- Electronic engine control provides precise fuel metering for optimized power, response and fuel efficiency.
- The water separator service indicator ensures the operator is alerted when service is necessary.
- Dry-type axial seal air cleaner with automatic, integrated dust ejection system for more efficient preseparation. Both air cleaner and precleaner functions are incorporated into a single unit mounted under the hood.

Transmission

The Cat standard power shuttle transmission provides four speeds forward and reverse. Hydraulically shifted clutches allow on-the-go direction and travel speed shifts. The optional auto-shift transmission matches gears with grade and load conditions. Top gear is selected with the twist grip control on the steering wheel.

- Hydraulic proportional control valves smooth speed and directional shifts.
- Transmission Kick-Down Switch/Neutralizer allows the operator to downshift through the gears to first.
- Four Wheel Drive (4WD) option improves mobility and loader performance in poor underfoot and can be activated on-the-go.
- Maximum roading speed of 40 km/h (25 mph) for faster travel between job sites.
- Cat Rear Axles are designed specifically for demanding backhoe loader applications. Axles feature outboard planetary gear sets for easy serviceability and brake design improvements for longer service life.

Brake Mode Selector

The brake mode selector switch has three positions: two wheel drive, two wheel drive with all wheel braking and four wheel drive. Two wheel drive with all wheel braking provides better tire life while roading and engages the front axle when brakes are applied for improved braking performance.





Loader

Choice of loader linkage to meet your needs.



Caterpillar offers a choice of single tilt or integrated toolcarrier (IT) loader linkage to suit your application requirements. The IT loader controls provide single lever proportional control and fine modulation of the hydraulic work tools. A thumb roller operates auxiliary hydraulic functions such as the multi purpose bucket on the IT machines.







Single Tilt

The standard single tilt loader linkage features strong lift and breakout forces for solid performance in backfilling and truck loading applications.

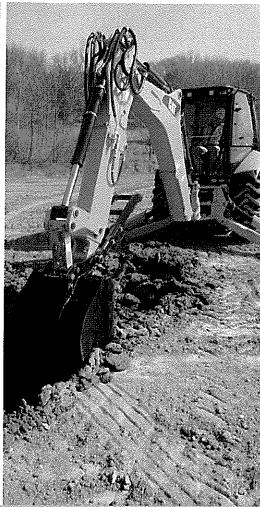
Integrated Toolcarrier

The optional integrated toolcarrier (IT) loader linkage provides higher breakout forces, as well as parallel lift, for efficient loading and material handling. Integrated toolcarriers are highly versatile and can use a wide range of Cat Work Tools for a variety of applications.

Return-to-Dig

The return-to-dig system reduces loading cycle times by bringing the loader bucket back to the dig position with an easy pull of the lever. By the time the loader bucket is at ground level, the bucket is angled correctly for the next load or cut.





Backhoe

Boom and stick designed for high performance and easy service.

The E-Series backhoe delivers industry-leading digging forces. Serrated edges on the stick provide improved material clamping for clearing and demolition applications. The single pin bucket linkage contributes to best-in-class rotation of 205 degrees for all applications.

E-Stick Design

The optional extendible stick (E-stick) increases reach and dig depth by approximately 1.2 meters (4 feet). The new design delivers increased life and easy in-field adjustment with common hand tools.

Curved Boom

The excavator-style boom is built for optimum performance and durability. The curved design provides additional clearance over obstacles while digging a trench or truck loading. The narrow boom enhances the viewing area to the bucket and trench throughout the entire operating range.

Thumbs

Thumb mounting provisions are standard on every Cat Backhoe Loader for added machine versatility. Hydraulic thumbs are available factory-installed. Mechanical thumbs are available through your Cat Dealer.

Serviceability

Easy access and minimal maintenance requirements maximize uptime.



Convenient service features make maintenance easy, reducing your downtime.

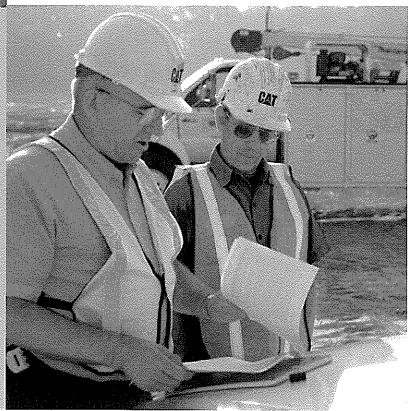
- Tilt-up hood provides convenient access to all engine check points.
- Fill caps are color-coded for quick identification.
- Electronic control modules store fault codes for easy, efficient troubleshooting and maximum uptime.
- S•O•SSM, Coolant Sampling and Technical Analysis help you avoid unscheduled repairs.
- Caterpillar is committed to providing you with a safe work environment. For more information please visit SAFETY.CAT.COMTM.

Customer Support

Makes the difference.

Your Cat dealer is ready to assist you with your purchase decision and everything after.

- Financing packages are flexible to meet your needs.
- Your Cat dealer can evaluate the cost to repair, rebuild and replace your machine, so you can make the right choice.
- Nearly all parts are available at your Cat dealer parts counter.
- See your dealer's website or www.cat.com to customize the machine that is right for you using the Build and Quote applications. Also find information on other Cat products, dealer services and industry solutions.



Technology Products

Advanced technologies improve productivity and simplify serviceability.

AccuGrade™ System

The AccuGrade system for backhoe loaders improves digging accuracy and site safety by eliminating the need for manual grade measuring. Both the Site and Laser Reference Systems save time and money in a variety of digging and trenching applications.

Site Reference System

The Site Reference System allows the operator to excavate to pre-determined coordinates. The intuitive software and controls allow the operator to set target grades.

An in-cab display allows the operator to enter slope and dig depth parameters. Easy to read grade indicator and elevation display delivers all system information to the cab for easy viewing by the operator. System includes rugged components built to withstand the harshest environments:

- In-cab display
- · Cylinder position sensors
- · Swing position sensor
- · Inclinometer
- Wiring harnesses

Laser Reference System

The Laser Reference System works with laser transmitters to accurately grade or excavate to a site plan without the use of grade stakes. The Laser System includes all the components of the Site Reference System with the addition of the following:

- Laser receiver
- Electric mast and mount
- · Laser wiring harness

Note: Laser transmitter and tripod sold separately

Product Link

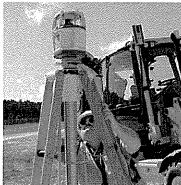
Product Link uses GPS technology to provide machine data, including service hours, location, events and diagnostic information, to you through a web-based application or e-mail/pager notification.

Machine Security System

An optional Machine Security System (MSS) that utilizes a programmable key system deters theft, vandalism and unauthorized usage. MSS uses electronically coded keys selected by the customer to limit usage by individuals or time parameters.





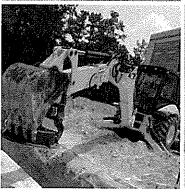


Work Tools

Do more jobs with one machine.

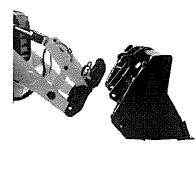












Backhoe Work Tools

A large selection of backhoe tools – including a new hydraulic thumb – gives you the flexibility to serve more customers, more profitably.

- Standard Duty, Heavy Duty, Heavy Duty Rock, Pin Lock, Soil Excavation, Coral and Ditch Cleaning Buckets
- · Cold Planer
- Hydraulic Hammer
- Auger
- Ripper
- Mechanical and Hydraulic Thumbs
- Quick Coupler
- Vibratory Plate Compactor

Loader Work Tools

The versatile loader tool line includes a wide variety of options from angle blades to asphalt cutters:

- General Purpose, Multi Purpose, Side Dump and Light Material Buckets
- Angle Blade
- Broom
- Rake
- Asphalt Cutter
- Loader Forks
- Bale Spear
- Material Handling Arm
- · Snow Plow

IT Quick Coupler

The quick coupler allows quick connection to selected work tools. Mechanical work tools can be changed in less than 30 seconds from the comfort of the operator station.

The right bucket makes all the difference

To get top performance from your Cat backhoe loader, be sure your machine is equipped with the proper bucket and tips. The soil excavation bucket provides the best productivity in most conditions.

DRS 230 (Diagonal Retention System)

Heavy-duty bucket teeth are attached with diagonal pins rather than horizontal pins for easy exchange.

Engine		
Engine Model (Standard)	Cat [®] C4.4 ACERT [®]	DIT
Gross Power – SAE J1995	75 kW	IOI hp
Gross Power – ISO 14396	75 kW	101 hp
Net Power – SAE J1349	69 kW	93 hp
Net Power - ISO 9249	70 kW	94 hp
Net Power – EEC 80/1269	70 kW	94 hp
Net Peak Power @ 1,800 rpm – SAE J1349	71 kW	95 hp
Net Peak Power @ 1,800 rpm - ISO 9249	72 kW	97 hp
Net Peak Power @ 1,800 rpm – EEC 80/1269	72 kW	97 hp
Bore	105 mm	4.13 in
Stroke	127 mm	5 in
Displacement	4.4 L	268 in ³
Net Torque Rise @ I,400 rpm – Standard	36%	
Net Peak Torque @ 1,400 rpm - Standard - SAE J1349	408 N·m	301 lb ft

- Engine meets all U.S. EPA Tier 3/ EU Stage IIIa emissions requirements.
- The net power ratings apply at 2,200 rpm when tested under the specified conditions for the specified standard.
- Net power advertised is the power available at the flywheel when the engine is equipped with fan, air cleaner, muffler and alternator.
- Based on standard air conditions of 25° C (77° F) and 99 kPa (29.32 in) in dry barometer.
- Used 35° API gravity fuel having an LHV of 42 780 kJ/kg (18,390 BTU/lb) when used at 30° C (89° F) (reference a fuel density of 838.9 g/L [7.001 lb/gal]).
- No derating required up to 3000 m (9,843 ft).
- Net torque rise meets SAE J1349.
- Net peak power ratings apply at conditions specified above.

f-2-4		
Weights		
Operating Weight - Nominal	6895 kg	15,201 lb
Operating Weight - Maximum	11 000 kg	24,251 lb
Cab, ROPS/FOPS	260 kg	573 lb
Auto-Shift Transmission	27 kg	60 lb
Ride Control	25 kg	55 lb
Air Conditioning	39 kg	86 lb
Four Wheel Drive	155 kg	342 lb
Loader, IT w/QC	365 kg	805 lb
Extendible Stick (no weights)	299 kg	659 lb
Counterweights (Option 1)	116 kg	255 lb
Counterweights (Option 2)	231 kg	510 lb
Counterweights (Option 3)	488 kg	1,075 lb

• Total gross machine weight not to exceed 11 000 kg (24,251 lb).

Backhoe		
Dig Depth – Standard	4360 mm	14 ft 4 in
E-Stick Retracted	4402 mm	14 ft 5 in
E-Stick Extended	5456 mm	17 ft 11 in
Reach from Swing Pivot – Standard	5618 mm	18 ft 5 in
E-Stick Retracted	5657 mm	18 ft 7 in
E-Stick Extended	6666 mm	21 ft 10 in
Bucket Rotation	205 Degree	es
Bucket Dig Force – Standard	61.7 kN	13,875 lb
E-Stick Retracted	60.9 kN	13,863 lb
E-Stick Extended	60.9 kN	13,863 lb
Stick Dig Force — Standard	43 kN	9,662 lb
E-Stick Retracted	42.8 kN	9,616 lb
E-Stick Extended	31.2 kN	7,023 lb
Stick Lift @ 2440 mm (8 ft) - Standard	2601 kg	5,722 lb
E-Stick Retracted	2408 kg	5,298 lb
E-Stick Extended	1620 kg	3,564 lb
Loading Height – Standard	3636 mm	11 ft 11 in
E-Stick Retracted	3577 mm	II ft 9 in
E-Stick Extended	4145 mm	13 ft 7 in
Loading Reach – Standard	1768 mm	5 ft 10 in
E-Stick Retracted	1868 mm	6 ft 1 in
E-Stick Extended	2771 mm	9 ft 1 in

Loader		
Bucket Capacity - General Purpose	0.96 m³	1.25 yd³
Bucket Width - General Purpose	2262 mm	7 ft 5 in
Dump Height @ Max Angle - Single Tilt	2573 mm	8 ft 5 in
Dump Height @ Max Angle – IT with QC	2507 mm	8 ft 3 in
Dump Reach @ Max Angle – Single Tilt	853 mm	2 ft 10 in
Dump Reach @ Max Angle - IT with QC	831 mm	2 ft 9 in
Dig Depth - Single Tilt	106 mm	4 in
Dig Depth – IT with QC	147 mm	6 in
Lift Capacity @ Full Height – Single Tilt	2929 kg	6,457 lb
Lift Capacity @ Full Height – IT with QC	3164 kg	6,975 lb
Bucket Breakout Force – Single Tilt	45.6 kN	10,242 lb
Bucket Breakout Force – IT with QC	47.1 kN	10,593 lb

Hydraulic Sys	tem	
Circuit Type	Closed ce sensing	nter, load
Pump Capacity (@ 2,200 rpm)	163 L/mir	ı 43 gal/min
System Pressure - Backhoe	24 900 kP	a 3,611 psi
System Pressure - Loader	22 800 kP	a 3,307 psi
Pump Type	Variable-f piston	low, axial
Steering Type	Front who	eel
Power Steering	Hydrostat	ic, HMU
2WD Cylinder – Bore	65 mm	2.6 in
Stroke	120 mm	4.7 in
Rod Diameter	36 mm	I.4 in
4WD Cylinder – Bore	65 mm	2.6 in
Stroke	120 mm	4.7 in
Rod Diameter	36 mm	1.4 in
Brake System	Inboard, o multiple d	oil-immersed, isc

Power Train		
Power-Shuttle, Forward 1st	6 km/h	3.7 mph
Forward 2nd	9.6 km/h	5.9 mph
Forward 3rd	20 km/h	12 mph
Forward 4th	40 km/h	25 mph
Power-Shuttle, Reverse 1st	6 km/h	3.7 mph
Reverse 2nd	9.6 km/h	5.9 mph
Reverse 3rd	20 km/h	12 mph
Reverse 4th	40 km/h	25 mph
Auto-Shift (opt), Forward 1st	5.9 km/h	3.7 mph
Forward 2nd	9.5 km/h	5.9 mph
Forward 3rd	20 km/h	12 mph
Forward 4th	27 km/h	17 mph
Forward 5th	41 km/h	25 mph
Auto-Shift (opt), Reverse 1st	5.9 km/h	3.7 mph
Reverse 2nd	13 km/h	7.8 mph
Reverse 3rd	27 km/h	17 mph

- Auto-Shift automatically shifts between second gear and highest selected gear.
- Forward/reverse electric power shuttle is controlled by a conveniently placed, hand operated lever that provides instant direction changes between forward and reverse through power hydraulic clutches.
- Torque converter free-wheel clutch allows the converter stator to free-wheel during high speed, low torque conditions such as roading.
- Single-stage, 2.63:1 stall ratio.
- Travel speeds of two wheel drive backhoe loader at full throttle when equipped with 19.5 × 24 rear tires.

Operating Specifications – Backhoe

Turning Circle: outside, front wheels	8.18 m	26 ft 10 in
Turning Circle:	10.97 m	36 ft
outside, widest		
loading bucket		

- ISO 5010.
- * 2WD, 4WD (inner wheel not braked).

Service Refills		
Cooling System	20.5 L	5.4 gal
Fuel Tank	170 L	45 gal
Engine Oil w/Filter	7.6 L	2 gal
Transmission-Torque Converter, 2WD, Power Shuttle	18.5 L	4.9∗gal
Transmission-Torque Converter, 4WD, Power Shuttle	18.5 L	4.9 gal
Transmission-Torque Converter, 4WD, Auto Shift	19 L	5 gal
Rear Axle	16.5 L	4.4 gal
Rear Axle, Planetaries	1.7 L	0.4 gal
Front Axle, 4WD	11 L	2.9 gal
Front Axle, Planetaries	0.7 L	0.2 gal
Hydraulic System	95 L	25.1 gal
Hydraulic Tank	38 L	10 gal

Standards	
Brakes	SAE J/ISO 3450, ISO 3450 1996
Cab – ROPS	SAE J1040 May 1994/ ISO 3741 1994
Cab – FOPS	SAE J/ISO 3449 APR98 LEVEL II and ISO 3449: 1992 LEVEL II
Cab – Sound	ANSI/SAE J1166 Oct 98 is 79 dB (A)
Exterior Sound	SAE J88 JUN86 is 76 dB (A)

Axle Ratings		
Front Axle, 2WD, Static	22 964 kg	50,582 lb
Dynamic	9186 kg	20,233 lb
Front Axle, 4WD, Static	22 964 kg	50,582 lb
Dynamic	9186 kg	20,233 lb
Rear Axle, Static	22 964 kg	50,582 lb
Dynamic	9186 kg	20,233 lb
Axle Oscillation	10 Degrees	

 4WD and 2WD axles are pendulum mounted and permanently sealed and lubricated, requiring no daily maintenance. Also features double-acting steering cylinder with 52° steering angle for increased maneuverability.

Engine Features

- Three-ring pistons made of lightweight, silicon/aluminum alloy for strength and maximum thermal conductivity.
- Forged chrome/molybdenum-steel crankshaft with crankshaft with either induction hardened or nitrocarburized journals.
- Front and rear crankshaft oil seals are "lip" type Viton and PTFE designs featuring an integral dust lip.
- Heat resistant, silicone-chrome steel intake and STELLITE-faced exhaust valves provide long life.
- Cylinder block is high strength, cast iron alloy of deep skirt, monobloc design for increased strength and long life.
- Cylinder head is high strength, cast iron alloy construction with extra duty wall and deck thickness. Intake and exhaust ports are precision cast to promote optimum gas flow.
- Direct injection fuel system provides accurate fuel delivery; remote mounted electric lift pump improves serviceability.
- Dry-type axial seal air cleaner with integral precleaner, automatic dust ejection system, and filter condition indicator.
- Direct electric, 12-volt starting and charging system with 880 CCA Group 31 maintenance free battery.
- Standard glow plug starting aid system for efficient cold weather starting.
- High contact ratio/gear train, peripheral fixed isolation top cover and open deck block design reduce bare engine noise.
- Higher low end torque for better engine/ machine performance.

Tires

Choices listed as combination of front/rear tires:

- 11L-16 (12 ply) F-3/19.5L-24 (12 ply) R4 ATU
- 12.5/80-18 NHS (12 ply) 1-3 Super Traction/19.5L-24 (12 ply) R4 ATU
- 12.5/80-18 NHS (12 ply) 1-3 Super Traction/21L-24 (16 ply) R4 ATU
- 340/80R 18 XMCL/500/70R 24 XMCL
- 340/80R 18 XMCL/19.5L-R24 (12 ply) R4 ATU

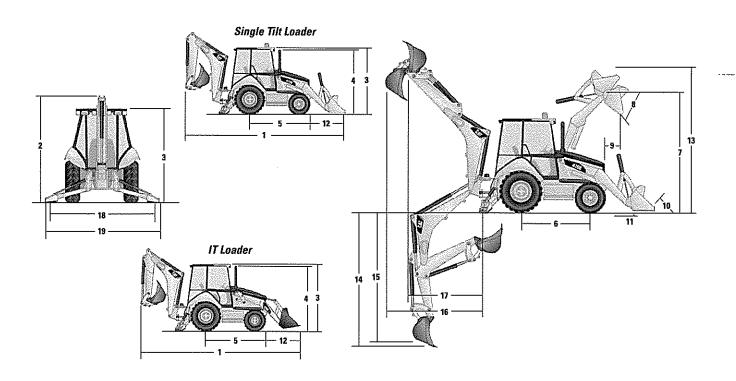
Brakes

Features:

- Brakes meet the following standards: SAE J1473 and ISO 3450 requirements.
- Self-adjusting, completely enclosed and sealed.
- Foot operated brake pedals can be interlocked for roading.
- Parking/secondary brakes are independent of the service brake system. Parking brake is mechanically applied through an adjustable hand lever located on the right console.

Machine Dimensions

				Single Ti	lt Loader			
•		ral Purpose m³/1.25 yd³)	General Purpose (1.00 m³/1.31 yd³)		General Purpose (1.07 m³/1.40 yd³)			ral Purpose m³/1.50 yd³)
·	mm	ft/in	mm	ft/in	mm	ft/in	mm	ft/in
(1) Overall length (loader on ground)	7290	23 ft 11 in	7245	23 ft 9 in	7307	24 ft 0 in	7232	23 ft 9 in
Overall transport length	7343	24 ft 1 in	7311	24 ft 0 in	7378	24 ft 2 in	7227	23 ft 9 in
(2) Overall transport height (standard stick)	3577	11 ft 9 in	3577	11 ft 9 in	3577	11 ft 9 in	3577	II ft 9 in
Overall transport height (extendible stick)	3631	11 ft 11 in	3631	11 ft 11 in	3631	II ft II in	3631	11 ft 11 in
Overall Width	2438	8 ft 0 in	2438	8 ft 0 in	2438	8 ft 0 in	2322	7 ft 7 in
(3) Height to top of cab/canopy	2819	9 ft 3 in	2819	9 ft 3 in	2819	9 ft 3 in	2819	9 ft 3 in
(4) Height to top of exhaust stack	2754	9 ft 0 in	2754	9 ft 0 in	2754	9 ft 0 in	2754	9 ft 0 in
Height to loader hinge pin (transport)	365	I ft 2 in	365	1 ft 2 in	407	1 ft 4 in	405	1 ft 4 in
Ground clearance (minimum)	320	1 ft 1 in	320	1 ft 1 in	320	1 ft 1 in	320	1 ft 1 in
(5) Rear axle centerline to front grill	2704	8 ft 10 in	2704	8 ft 10 in	2704	8 ft 10 in	2705	8 ft 10 in
Front wheel tread gauge	1880	6 ft 2 in	1880	6 ft 2 in	1880	6 ft 2 in	1826	6 ft 0 in
Rear wheel tread gauge	1727	5 ft 8 in	1727	5 ft 8 in	1727	5 ft 8 in	1707	5 ft 7 in
(6) Wheelbase 2WD/4WD	2200	7 ft 3 in	2200	7 ft 3 in	2200	7 ft 3 in	2200	7 ft 3 in



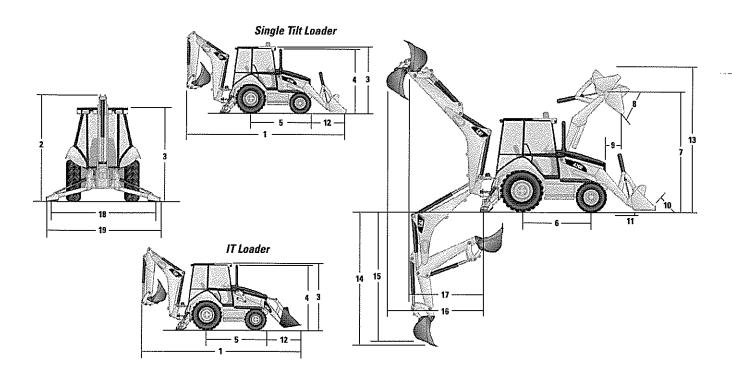
Machine Dimensions

				Single Ti	ilt Loader			
-	Multi Purpose (0.96 m³/1.25 yd³)		Multi Purpose (1.03 m³/1.35 yd³)		wi	ti Purpose th Forks m³/1.31 yd³)	Multi Purpose with Forks (1.07 m³/1.40 yd³)	
-	mm	ft/in	mm	ft/in	mm	ft/in	mm	ft/in
(1) Overall length (loader on ground)	7130	23 ft 5 in	7130	23 ft 5 in	7130	23 ft 5 in	7130	23 ft 5 in
Overall transport length	7155	23 ft 6 in	7155	23 ft 6 in	7155	23 ft 6 in	7155	23 ft 6 in
(2) Overall transport height (standard stick)	3577	11 ft 9 in	3577	11 ft 9 in	3577	11 ft 9 in	3577	11 ft 9 in
Overall transport height (extendible stick)	3631	11 ft 11 in	3631	11 ft 11 in	3631	11 ft 11 in	3631	11 ft 11 in
Overall Width	2322	7 ft 7 in	2322	7 ft 7 in	2322	7 ft 7 in	2322	7 ft 7 in
(3) Height to top of cab/canopy	2819	9 ft 3 in	2819	9 ft 3 in	2819	9 ft 3 in	2819	9 ft 3 in
(4) Height to top of exhaust stack	2754	9 ft 0 in	2754	9 ft 0 in	2754	9 ft 0 in	2754	9 ft 0 in
Height to loader hinge pin (transport)	412	1 ft 4 in	412	1 ft 4 in	412	1 ft 4 in	412	I ft 4 in
Ground clearance (minimum)	320	I ft 1 in	320	1 ft 1 in	320	1 ft I in	320	l ft l in
(5) Rear axle centerline to front grill	2705	8 ft 10 in	2705	8 ft 10 in	2705	8 ft 10 in	2705	8 ft 10 in
Front wheel tread gauge	1826	6 ft 0 in	1826	6 ft 0 in	1826	6 ft 0 in	1826	6 ft 0 in
Rear wheel tread gauge	1707	5 ft 7 in	1707	5 ft 7 in	1707	5 ft 7 in	1707	5 ft 7 in
(6) Wheelbase 2WD/4WD	2200	7 ft 3 in	2200	7 ft 3 in	2200	7 ft 3 in	2200	7 ft 3 in

			IT Loader wit	h Quick Coupler		
******	General Purpose (0.96 m³/1.25 vd³)		General Purpose (1.00 m³/1.31 yd³)			I Purpose ³ /1.50 yd³)
_	mm	ft/in	mm	ft/in	mm	ft/in
(1) Overall length (loader on ground)	7399	24 ft 3 in	7354	24 ft 2 in	7321	24 ft 0 in
Overall transport length	7434	25 ft 5 in	7402	24 ft 3 in	7275	23 ft 10 in
(2) Overall transport height (standard stick)	3577	11 ft 9 in	3577	11 ft 9 in	3577	11 ft 9 in
Overall transport height (extendible stick)	3631	11 ft 11 in	3631	11 ft 11 in	3631	11 ft 11 in
Overall Width	2438	8 ft 0 in	2438	8 ft 0 in	2322	7 ft 7 in
(3) Height to top of cab/canopy	2819	9 ft 3 in	2819	9 ft 3 in	2819	9 ft 3 in
(4) Height to top of exhaust stack	2754	9 ft 0 in	2754	9 ft 0 in	2754	9 ft 0 in
Height to loader hinge pin (transport)	382	1 ft 3 in	382	I ft 3 in	364	1 ft 2 in
Ground clearance (minimum)	320	1 ft 1 in	320	1 ft 1 in	320	l ft l in
(5) Rear axle centerline to front grill	2704	8 ft 10 in	2704	8 ft 10 in	2705	8 ft 10 in
Front wheel tread gauge	1880	6 ft 2 in	1880	6 ft 2 in	1826	6 ft 0 in
Rear wheel tread gauge	1727	5 ft 8 in	1727	5 ft 8 in	1707	5 ft 7 in
(6) Wheelbase 2WD/4WD	2200	7 ft 3 in	2200	7 ft 3 in	2200	7 ft 3 in

Machine Dimensions

_		Purpose ³ /1.25 yd³)		Purpose ³ /1.35 yd³)	
	mm	ft/in	mm	ft/in	
(1) Overall length (loader on ground)	7231	23 ft 9 in	7231	23 ft 9 in	H-MAN
Overall transport length	7208	23 ft 8 in	7208	23 ft 8 in	
(2) Overall transport height (standard stick)	3577	11 ft 9 in	3577	11 ft 9 in	
Overall transport height (extendible stick)	3631	11 ft 11 in	3631	11 ft 11 in	
Overall Width	2322	7 ft 7 in	2322	7 ft 7 in	
(3) Height to top of cab/canopy	2819	9 ft 3 in	2819	9 ft 3 in	
(4) Height to top of exhaust stack	2754	9 ft 0 in	2754	9 ft 0 in	
Height to loader hinge pin (transport)	359	1 ft 2 in	359	I ft 2 in	
Ground clearance (minimum)	320	l ft l in	320	l ft l in	
(5) Rear axle centerline to front grill	2705	8 ft 10 in	2705	8 ft 10 in	
Front wheel tread gauge	1826	6 ft 0 in	1826	6 ft 0 in	
Rear wheel tread gauge	1707	5 ft 7 in	1707	5 ft 7 in	
(6) Wheelbase 2WD/4WD	2200	7 ft 3 in	2200	7 ft 3 in	the transfer of the transfer o



Loader Bucket Dimensions and Performance

	- ""				Single Ti	It Loader			
			Purpose (1.25 yd³)		Purpose /1.31 yd³)	General Purpose (1.07 m³/1.40 yd³)			Purpose /1.50 yd³)
	Capacity (SAE rated)	0.96 m ³	1.25 yd³	1.00 m ³	1.31 yd ³	1.07 m ³	1.40 yd ³	1.15 m ³	1.50 yd ³
	Overall bucket width	2262 mm	7 ft 5 in	2406 mm	7 ft 11 in	2262 mm	7 ft 5 in	2406 mm	7 ft 11 in
	Lift capacity at maximum height	2929 kg	6,457 lb	2937 kg	6,475 lb	2868 kg	6,323 lb	2733 kg	6,025 lb
	Breakout force	45.6 kN	10,242 lb	46.3 kN	10,401 lb	45.1 kN	10,130 lb	43.6 kN	9,814 lb
(7)	Maximum hinge pin height	3296 mm	10 ft 10 in	3296 mm	10 ft 10 in	3296 mm	10 ft 10 in	3294 mm	10 ft 10 in
(8)	Dump angle at full height	44	4°	44°		44°		46°	
	Dump height at maximum angle	2573 mm	8 ft 5 in	2604 mm	8 ft 7 in	2550 mm	8 ft 4 in	2529 mm	8 ft 4 in
(9)	Dump reach at maximum angle	853 mm	2 ft 10 in	821 mm	2 ft 8 in	819 mm	2 ft 8 in	752 mm	2 ft 6 in
(10)	Maximum bucket rollback at ground level	39)°	39	9°	41)°	40)°
(11)	Digging depth	106 mm	4 in	106 mm	4 in	146 mm	6 in	146 mm	6 in
	Maximum grading angle	10	7°	10	8°	10	·8°	11	l°
	Width of dozer cutting edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
(12)	Grill to bucket cutting edge, carry position	1516 mm	5 ft 0 in	1484 mm	4 ft 10 in	1551 mm	5 ft 1 in	1544 mm	5 ft 1 in
(13)	Maximum operating height	4196 mm	13 ft 9 in	4193 mm	13 ft 9 in	4237 mm	13 ft 11 in	4216 mm	13 ft 11 in
	Jaw opening maximum	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Bucket jaw clamping force	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Weight (does not include teeth or forks)	438 kg	967 lb	449 kg	989 lb	459 kg	1,012 lb	493.37 kg	1,088 lb

					Single Ti	lt Loader			
			urpose (1.25 yd³)	Multi Purpose (1.03 m³/1.35 yd³)		with	^P urpose Forks '1.31 yd³)	Multi Purpose with Forks (1.07 m³/1.40 yd³)	
	Capacity (SAE rated)	0.96 m³	1.26 yd³	1.03 m ³	1.35 yd ³	1.00 m ³	1.31 yd ³	1.07 m ³	1.40 yd³
	Overall bucket width	2279 mm	7 ft 6 in	2425 mm	7 ft 11 in	2279 mm	7 ft 6 in	2425 mm	7 ft 11 in
	Lift capacity at maximum height	2616 kg	5,768 lb	2587 kg	5,704 lb	2500 kg	5,512 lb	2471 kg	5,448 lb
	Breakout force	46.9 kN	10,547 lb	46.7 kN	10,514 lb	46.0 kN	10,341 lb	45.8 kN	10,308 lb
(7)	Maximum hinge pin height	3294 mm	10 ft 10 in	3294 mm	10 ft 10 in	3294 mm	10 ft 10 in	3294 mm	10 ft 10 in
(8)	Dump angle at full height	46°		46°		46°		46°	
	Dump height at maximum angle	2605 mm	8 ft 7 in	2605 mm	8 ft 7 in	2605 mm	8 ft 7 in	2605 mm	8 ft 7 in
(9)	Dump reach at maximum angle	695 mm	2 ft 3 in	695 mm	2 ft 3 in	695 mm	2 ft 3 in	695 mm	2 ft 3 in
(10)	Maximum bucket rollback at ground level	40)°	4	D _o	4) _o	4()°
(11)	Digging depth	133 mm	5 in	133 mm	5 in	133 mm	5 in	133 mm	5 in
	Maximum grading angle	11	3°	11	3°	11	3°	11	3°
	Width of dozer cutting edge	2262 mm	7 ft 5 in	2406 mm	7 ft 11 in	2262 mm	7 ft 5 in	2406 mm	7 ft 11 in
(12)	Grill to bucket cutting edge, carry position	1473 mm	4 ft 10 in	1473 mm	4 ft 10 in	1473 mm	4 ft 10 in	1473 mm	4 ft 10 in
(13)	Maximum operating height	4224 mm	13 ft 10 in	4224 mm	13 ft 10 in	4698 mm	15 ft 5 in	4698 mm	15 ft 5 in
	Jaw opening maximum	790 mm	2 ft 7 in	790 mm	2 ft 7 in	790 mm	2 ft 7 in	790 mm	2 ft 7 in
	Bucket jaw clamping force	55 700 N	12,521 lb	55 700 N	12,521 lb	55 700 N	12,521 lb	55 700 N	12,521 lb
	Weight (does not include teeth or forks)	744.69 kg	1,642 lb	773.53 kg	1,705 lb	914.64 kg	2,016 lb	936.27 kg	2,064 lb

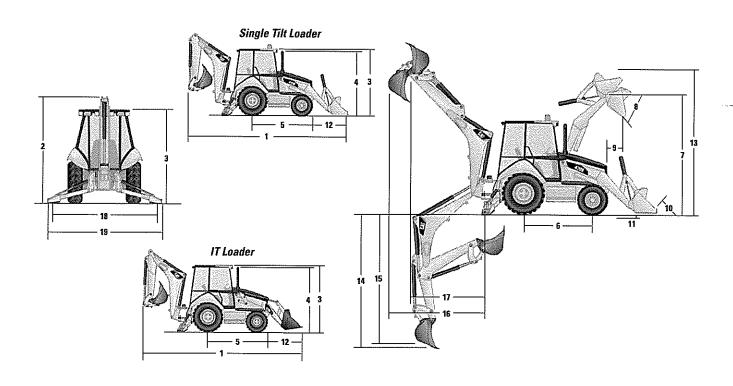
Loader Bucket Dimensions and Performance

			IT Loader with	Quick Coupler		
	General Purpose (0.96 m³/1.25 yd³)			Purpose /1.31 yd³)	General Purpose (1.15 m³/1.50 yd³)	
Capacity (SAE rated)	0.96 m³	1.25 yd³	1.00 m ³	1.31 yd ³	1.15 m ³	1.50 yd ³
Overall bucket width	2262 mm	7 ft 5 in	2406 mm	7 ft 11 in	2406 mm	7 ft 11 in
Lift capacity at maximum height	3164 kg	6,975 lb	3162 kg	6,971 lb	3023 kg	6,664 lb
Breakout force	47.1 kN	10,593 lb	47.5 kN	10,672 lb	45.5 kN	10,235 lb
(7) Maximum hinge pin height	3329 mm	10 ft 11 in	3329 mm	10 ft 11 in	3316 mm	10 ft 11 in
(8) Dump angle at full height	4.	5°	4:	5°	45°	
Dump height at maximum angle	2507 mm	8 ft 2 in	2539 mm	8 ft 4 in	2493 mm	8 ft 2 in
(9) Dump reach at maximum angle	831 mm	2 ft 9 in	799 mm	2 ft 7 in	801 mm	2 ft 8 in
(10) Maximum bucket rollback at ground level	4	0°	40°		40°	
(11) Digging depth	147 mm	6 in	147 mm	6 in	153 mm	6 in
Maximum grading angle	10	8°	11	0°	10	8°
Width of dozer cutting edge	N/A	N/A	N/A	N/A	N/A	N/A
(12) Grill to bucket cutting edge, carry position	1607 mm	5 ft 3 in	1575 mm	5 ft 2 in	1593 mm	5 ft 3 in
(13) Maximum operating height	4260 mm	14 ft 0 in	4256 mm	14 ft 0 in	4303 mm	14 ft 1 in
Jaw opening maximum	N/A	N/A	N/A	N/A	N/A	N/A
Bucket jaw clamping force	N/A	N/A	N/A	N/A	N/A	N/A
Weight (does not include teeth or forks)	434 kg	957 lb	444 kg	978 lb	481.01 kg	1,060 lb

			IT Loader with			
		Multi Purpose (0.96 m³/1.25 yd³)		Multi P (1.03 m³/	^P urpose 1.35 yd³)	
	Capacity (SAE rated)	0.96 m³	1.26 yd ³	1.03 m ³	1.35 yd ³	
	Overall bucket width	2279 mm	7 ft 6 in	2425 mm	7 ft 11 in	
·	Lift capacity at maximum height	2800 kg	6,174 lb	2771 kg	6,110 lb	· ************************************
	Breakout force	44.5 kN	10,020 lb	44.4 kN	9,983 lb	· · · · · · · · · · · · · · · · · · ·
(7)	Maximum hinge pin height	3316 mm	10 ft 11 in	4306 mm	14 ft 2 in	WINNESS.
(8)	Dump angle at full height	4	15°	4.	5°	
	Dump height at maximum angle	2559 mm	8 ft 5 in	2559 mm	8 ft 5 in	
(9)	Dump reach at maximum angle	748 mm	2 ft 5 in	748 mm	2 ft 5 in	
(10)	Maximum bucket rollback at ground level	4	10°	40)°	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
(11)	Digging depth	144 mm	6 in	144 mm	6 in	
	Maximum grading angle	1	l1°	11	1°	
	Width of dozer cutting edge	2262 mm	7 ft 5 in	2406 mm	7 ft 11 in	, , , , , , , , , , , , , , , , , , , ,
(12)	Grill to bucket cutting edge, carry position	1526 mm	5 ft 0 in	1526 mm	5 ft 0 in	
(13)	Maximum operating height	4306 mm	14 ft 2 in	4306 mm	14 ft 2 in	· · · · · · · · · · · · · · · · · · ·
•	Jaw opening maximum	790 mm	2 ft 7 in	790 mm	2 ft 7 in	
	Bucket jaw clamping force	55 700 N	12,521 lb	55 700 N	12,521 lb	
	Weight (does not include teeth or forks)	724.09 kg	1,596 lb	752.93 kg	1,660 lb	

Backhoe Dimensions and Performance

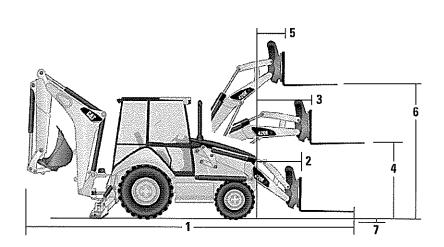
	Standa	rd Stick	E-Stick Retracted		E-Stick	Extended
(14) Digging depth, SAE (max.)	4360 mm	I4 ft 4 in	4402 mm	14 ft 5 in	5456 mm	17 ft 11 in
(15) Digging depth, 610 mm (2 ft) flat bottom	4321 mm	14 ft 2 in	4363 mm	14 ft 4 in	5420 mm	17 ft 9 in
Reach from rear axle centerline at ground line	6721 mm	22 ft 1 in	6760 mm	22 ft 2 in	7769 mm	25 ft 6 in
(16) Reach from swing pivot at ground line	5618 mm	18 ft 5 in	5657 mm	18 ft 7 in	6666 mm	21 ft 10 in
Maximum operating height	5523 mm	18 ft 1 in	5555 mm	18 ft 3 in	6302 mm	20 ft 8 in
Loading height	3636 mm	11 ft 11 in	3577 mm	II ft 9 in	4145 mm	13 ft 7 in
(17) Loading reach	1768 mm	5 ft 10 in	1868 mm	6 ft 2 in	2771 mm	9 ft 1 in
Swing arc	18	30°	18	0°	18	0°
Bucket rotation	20)5°	20)4°	20)4°
(18) Stabilizer spread, operating position (center)	3310 mm	10 ft 10 in	3310 mm	10 ft 10 in	3310 mm	10 ft 10 in
(19) Stabilizer spread, operating position (outside)	3770 mm	12 ft 4 in	3770 mm	12 ft 4 in	3770 mm	12 ft 4 in
Stabilizer spread, transport position	2322 mm	7 ft 7 in	2322 mm	7 ft 7 in	2322 mm	7 ft 7 in
Bucket dig force	61.7 kN	13,875 lb	60.9 kN	13,863 lb	60.9 kN	13,863 lb
Stick dig force	43.0 kN	9,662 lb	42.8 kN	9,6161b	31.2 kN	7,023 lb



Dimensions with Forks/Material Handling Arm

Fork Tine Length	1070 mm	1070 mm/3 ft 6 in		1220 mm/4 ft 0 in		/4 ft 10 in
Operating load (SAE J1197)	2291 kg*	5,051 lb*	2215 kg*	4,883 lb*	2019 kg	4,451 lb
SAE load center	535 mm	1 ft 9 in	610 mm	2 ft 0 in	685 mm	2 ft 3 in
Operating load (CEN 474-4)	2428 kg	5,353 lb	2406 kg	5,304 Ib	2382 kg	5,251 lb
CEN load center	500 mm	1 ft 8 in	500 mm	1 ft 8 in	500 mm	1 ft 8 in
(1) Overall length (forks on ground)	7717 mm	25 ft 4 in	7867 mm	25 ft 10 in	8017 mm	26 ft 4 in
(2) Reach at ground (from grill to heel of fork)†	985 mm	3 ft 3 in	985 mm	3 ft 3 in	985 mm	3 ft 2 in
(3) Maximum reach (from grill to heel of fork)†	1427 mm	4 ft 8 in	1427 mm	4 ft 8 in	1427 mm	4 ft 8 in
(4) Fork height at maximum reach	1458 mm	4 ft 9 in	1458 mm	4 ft 9 in	1458 mm	4 ft 9 in
(5) Reach at maximum height (from grill to heel of fork)†	665 mm	2 ft 2 in	665 mm	2 ft 2 in	665 mm	2 ft 2 in
(6) Maximum fork height	3238 mm	10 ft 7 in	3238 mm	10 ft 7 in	3238 mm	10 ft 7 in
(7) Maximum fork depth (below ground level)	20 mm	l in	20 mm	1 in	20 mm	1 in

^{*}Tip limited.

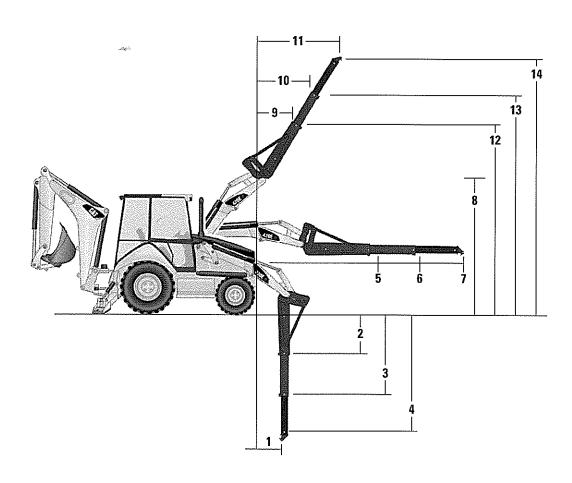


[†]Measured from nose of machine.

Dimensions/Material Handling Arm

Material H	Material Handling Arm Position		Retracted		Mid-Position		nded
	Operating load (SAE J1197 and CEN 474-4)*†	933 kg	2,057 lb	590 kg	1,301 lb	431 kg	950 lb
	Overall length, maximum	8809 mm	28 ft 11 in	9807 mm	32 ft 2 in	10 807 mm	35 ft 5 in
(1)	Reach at maximum depth (from machine nose)	585 mm	Ift II in	585 mm	1 ft 11 in	585 mm	1 ft 11 in
(2, 3, 4)	Maximum depth	1998 mm	6 ft 7 in	2996 mm	9 ft 10 in	3996 mm	13 ft 1 in
	Maximum reach (from machine nose)†	3147 mm	10 ft 4 in	4145 mm	13 ft 7 in	5145 mm	16 ft 11 in
	Height at maximum reach	1549 mm	5 ft 1 in	1549 mm	5 ft 1 in	1549 mm	5 ft 1 in
(9, 10, 11)	Reach at maximum height (from machine nose)†	1462 mm	4 ft 10 in	2000 mm	6 ft 7 in	2541 mm	8 ft 4 in
(12, 13, 14)	Maximum height	5051 mm	16 ft 7 in	5892 mm	19 ft 4 in	6733 mm	22 ft 1 in

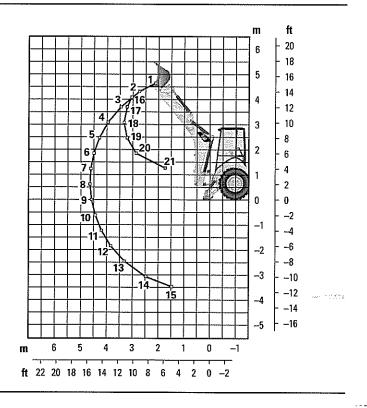
^{*}Hydraulically limited.



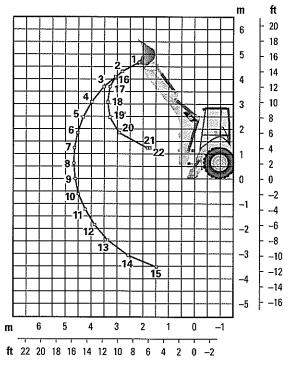
[†]Measured from nose of machine.

Backhoe Lift Capacity

Boom Lifting		kg	lb
	1	1585	3,495
, , , , , , , , , , , , , , , , , , ,	2	1733	3,821
	3	1759	3,879
***************************************	4	1718	3,787
	5	1659	3,657
	6	1597	3,520
	7	1536	3,385
	8	1478	3,258
	9	1424	3,139
1	0	1375	3,031
1	1	1331	2,935
1	2	1295	2,854
1	3	1270	2,800
1	4	1280	2,822
	5	1439	3,173
Stick Lifting		kg	lb
1	6	1818	4,007
1	7	2537	5,592
1	8	2472	5,450
1	9	2563	5,649
2	<u>.</u> 0	2975	6,559
2	<u>!</u> 1	5920	13,050



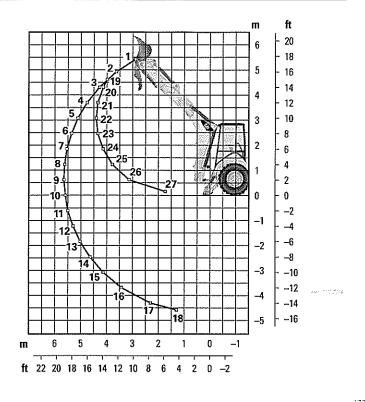
Cat 420E/420E IT Extendible Stick – Retracted						
Boom Lifting		kg	1b			
	1	1405	3,097			
	2	1543	3,402			
	3	1560	3,439			
	4	1516	3,342			
	5	1456	3,210			
	6	1393	3,071			
	7	1331	2,935			
	8	1273	2,805			
	9	1218	2,684			
	10	1167	2,572			
	11	1121	2,471			
	12	1081	2,383			
	13	1051	2,316			
	14	1046	2,306			
	15	1177	2,595			
Stick Lifting		kg	lb			
	16	1664	3,668			
	17	2366	5,217			
	18	2273	5,012			
	19	2355	5,192			
	20	2728	6,015			
	21	5294	11,671			
	22	5716	12,602			



Lift Capacities are over-end values. Machine equipped with 4WD, OROPS, 0.96 m³ (1.25 yd³) general purpose bucket, and 116 kg (255 lb) counterweight. Extendible stick includes 488 kg (1,075 lb) counterweight.

Backhoe Lift Capacity

kg	lb
816	1,800
987	2,176
1055	2,326
1069	2,358
1061	2,340
1041	2,294
1020	2,248
994	2,192
968	2,135
943	2,080
920	2,029
900	1,983
883	1,946
872	1,922
872	1,922
896	1,976
1030	2,272
1555	3,429
kg	lb
859	1,893
1104	2,434
1443	3,181
1547	3,410
1572	3,466
1673	3,687
1899	4,185
2467	5,438
	816 987 1055 1069 1061 1041 1020 994 968 943 920 900 883 872 872 876 1030 1555 kg 859 1104 1443 1547 1572 1673 1899



Lift Capacities are over-end values. Machine equipped with 4WD, OROPS, 0.96 m³ (1.25 yd³) general purpose bucket, and 116 kg (255 lb) counterweight. Extendible stick includes 488 kg (1,075 lb) counterweight.

Counterweights

Minimum Counterweight Recommendations

Standard Stick									
		Singl	e-Tilt	IT Loader w/QC					
Loader Bucket	Power Train	kg	lb	kg	lb				
GP	2WD/4WD	231	510	no count	erweight				
MP	2WD/4WD	no count	erweight	no count	erweight				
Forks	2WD/4WD	N/A	N/A	no count	erweight				
Material Handling Arm	2WD/4WD	N/A	N/A	no count	erweight				

	Singl	le-Tilt	IT Loader w/Q	
Power Train	kg	lb	kg	lb
2WD/4WD	488	1,075	231	510
2WD/4WD	231	510	no coun	terweight
2WD/4WD	N/A	N/A	no coun	terweight
2WD	N/A	N/A	116	255
4WD	N/A	N/A	no coun	terweight
	Power Train 2WD/4WD 2WD/4WD 2WD/4WD 2WD	Power Train kg 2WD/4WD 488 2WD/4WD 231 2WD/4WD N/A 2WD N/A	Power Train kg lb 2WD/4WD 488 1,075 2WD/4WD 231 510 2WD/4WD N/A N/A 2WD N/A N/A 4WD N/A N/A	Power Train kg lb kg 2WD/4WD 488 1,075 231 2WD/4WD 231 510 no count 2WD/4WD N/A N/A no count 2WD N/A N/A 116 4WD N/A N/A no count

Backhoe Buckets

With weld on adapters and pin-on teeth

andard Duty										
Wie	dth	Rated (Capacity	We	ight	No. of				
mm	in	L	ft³	kg	lb	Teeth				
305	12	78	2.8	97	213	3				
457	18	118	4.2	115	253	4				
610	24	175	6.2	132	290	5				
762	30	233	8.2	147	323	5				
914	36	292	10.3	165	363	6				

Wi	dth	Rated C	apacity	We	ight	No. of
mm	in	L	ft³	kg	lb	Teeth
305	12	78	2.8	105	231	3
406	16	105	3.7	128	282	3
457	18	118	4.2	129	284	4
610	24	175	6.2	151	332	5
762	30	233	8.2	167	367	5
914	36	292	10.3	189	416	6

Width		Rated Capacity		We	ight	No. of
mm	in	L	ft³	kg	lb	Teeth
457	18	181	6.4	153	336	4
610	24	241	8.5	179	395	5
762	30	320	11.3	197	434	5
914	36	380	13.4	223	491	6

Width		Rated Capacity		Weight		No. of
mm	in	L	ft³	kg	lb	Teeth
305	12	70	2.5	120	265	3
457	18	127	4.5	150	331	4
610	24	198	7.0	175	386	5
762	30	255	9.5	195	430	5
914	36	311	11.5	210	463	6

ral						
Width		Rated Capacity		Weight		No. of
mm	in	L	ft³	kg	lb	Teeth
305	12	60	2.1	134	295	4
457	18	100	3.5	155	341	6
610	24	140	4.9	182	402	8
762	30	190	6.7	210	463	10

420E/420E IT Standard Equipment

Standard equipment may vary. Consult your Caterpillar dealer for details

Air cleaner

Alarm, back-up

Automatic Engine Speed Control (AESC)

Backhoe position footrests

Battery, maintenance-free, 880 CCA

Battery disconnect switch

Boom transport lock

Brace, lift cylinder

Brake, secondary parking

Brakes, hydraulically boosted, oil disc,

dual pedals, interlocking

Bucket level indicator

Canopy, ROPS/FOPS

Cat cushion swing system

Coat hook

Coolant/Antifreeze, extended life

Counterweight, bumper

Dome light (cab only)

Differential lock

Engine, Cat* C4.4 ACERT* DIT

(Direct Injection Turbocharged)

Engine enclosure

Face seals, O-ring

Fan, suction and guard

Fast reversing shuttle, all gears

Fenders, rear

Filters, spin-on: fuel, engine oil, transmission oil, water separator,

hydraulic fluid

Flashing hazard/signal lights

Floor mat

Gauges: coolant temperature, fuel level, tachometer, hour meter, torque converter

oil temperature

Ground level fuel fill

High ambient cooling package

Hydraulic hose, XT™-3 ES

Hydraulic oil cooler

Indicators: air cleaner service, water

separator service, brake on, engine

coolant, hydraulic oil level sight gauge, oil

pressure

Instrument panel lights

Joystick controls: pilot operated,

excavator-style with pattern changer

Key start/stop system

Lights, working (4 front, 4 rear)

Loader, self-leveling, return-to-dig and

transmission disconnect switch Lunch box holder

Mirror, rear view

One-touch low idle

Open circuit breather

Pattern changer, in cab

Power receptacle, 12V, internal

and external

Power steering, hydrostatic

Radio installation kit

Rubber impact strips on radiator guard

Seat belt, retractable (51 mm/2 in)

Service harness

Stabilizer shoes, grouser type

Seat, air suspension, fabric or vinyl cover,

with armrest

Stabilizer controls, pilot operated

Starting system, glow plugs

Storage compartment, internal

Stop and tail lights

Swing transport lock

Tilt steering wheel

Tires, see page 13

Toolbox, external, lockable

Torque converter

Throttles, hand and foot

Transmission, four speed, syncromesh

Transmission neutralizer switch

Transport tie-downs

Warning horn, electric

420E/420E IT Optional Equipment

Optional equipment may vary. Consult your Caterpillar dealer for details

	kg	lb
AccuGrade TM Site Reference	19	42
System for Backhoe Loaders		
AccuGrade Laser Reference	48	105
System for Backhoe Loaders		
Attachments, backhoe		
Mechanical Quick Coupler		
D and E-Series buckets	75	165
C-Series buckets	75	165
D, E and Deere buckets	75	165
D, E and Case buckets	80	176
Hydraulic thumb	139-	306-
	157	345
Attachments, front loader		
General purpose buckets		
0.96 m³ (1.25 yd³)	452	994
1.00 m³ (1.31 yd³)	462	1,016
1.07 m³ (1.4 yd³)	473	1,041
Multi purpose buckets		
1.0 m ³ (1.3 yd ³)	557	1,225
1.0 m³ (1.3 yd³) w/ forks	884	1,945
1.1 m³ (1.4 yd³)	742	1,632
1.1 m ³ (1.4 yd ³) w/ forks	908	1,998
Carriage, fork	218	480
Material handling arm	425	953

	kg	lb
Axle, front		
Four wheel drive with	155	341
driveshaft guard		
Battery, additional, 880 CCA	25	55
Cab, deluxe	225	495
Cab, deluxe with A/C	263	579
Cab, standard	225	495
Canopy Plus, ROPS	15	33
Coolant, additional	0	0
protection, -50° C (-58° F)		
Counterweights		
116 kg (255 lb)	116	255
231 kg (510 lb)	231	510
488 kg (1,075 lb)	488	1,075
Cutting edge, bolt-on,	70	154
two piece		
Fenders, 4WD, front	12	26
Fenders, rear extensions	1	2
Guards		
Boom protection plate	18	39
Stabilizer, rock	31	68
Hydraulic valves, loader	27	59
(3rd valve for GP, MP or		
Quick Coupler)		
Hydraulic valves, backhoe		
5th Function	5	11
6th Function	5	11.

	kg	lb		
Hydraulic lines				
Combo, Std Stick	27	59		
Combo, E-Stick	27	59		
One-way, E-Stick	22	48		
Loader, IT with hydraulic	338	744		
QC and pilot loader control				
Machine Security System	1	2		
Product Link	4	9		
Ride Control	22	48		
Rotating beacon		•		
Magnetic mount	5	11		
Seat belt, 75 mm (3 in)	0	0		
Stabilizers, available with guards				
Street	37	81		
Reversible	38	84		
Sticks				
Extendible	255	561		
Teeth, loader bucket	45	99		
Transmission, auto-shift	25	55		
Vandalism protection				
Gauge cover	1	2		
Padlocks	1	2		
Hood lock	0	0		

-020

420E/420E IT Backhoe Loaders

For more complete information on Cat products, dealer services, and industry solutions, visit us on the web at www.cat.com

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 $\label{thm:maximum} \textbf{Materials and specifications are subject to change without notice. Featured machines in may include additional equipment, See your Caterpillar dealer for available options.}$

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AEHQ6011 (09-2008) Replaces AEHQ5685-02



CHENEGA IRA COUNCIL REGULAR MEETING FEBRUARY 4, 2010

MINUTES

CALL TO ORDER

Chairman Charles W. Totemoff called the Regular Meeting of the Chenega IRA Council to order at 10:13 a.m. at the offices of Chenega Corporation in Anchorage, Alaska. Teleconference capability was available to those who could not come to Anchorage.

INVOCATION

Paul T. Selanoff, Council Vice President/Secretary led the group in prayer.

ROLL CALL

Present were: Charles W. Totemoff, Chairman

Via Teleconference: Michael Vigil, President – Chenega Bay

Paul T. Selanoff, Vice President/Secretary -- Valdez

Richard Kompkoff, Treasurer -- Chenega Bay Donald Kompkoff, Sr., Council Member -- Valdez

Excused Absence: GayDell Trumblee, Recording Secretary – Chenega Bay

A quorum was established.

Staff Present: Deb Daisy, Community Development & Grants Manager and

Acting Tribal Administrator – Anchorage

Brian Pillars, IRA Operations Manager - Anchorage

Margie Toliver, Corporate Office Administrator (recording

minutes) - Anchorage

Guests: Sarah Espelin, Espelin & Associates – Seward

Nicholas??

J.P. Selanoff, Tribal Administrator Applicant – Anchorage

AGENDA

Michael Vigil moved to approve the agenda. Richard Kompkoff seconded the motion. It was requested that the meeting date of January 28, 2010 noted on the agenda and all other supporting documents in the meeting packet be changed to reflect the new meeting date of February 4, 2010. Without objection, the motion passed unanimously.

MINUTES

The minutes from the Special Meeting held on December 29, 2009 had been provided to the Council members prior to the meeting. Mr. Vigil moved to approve the minutes. Paul T. Selanoff seconded the motion. After discussion, it was requested that in the last paragraph of the first page, the January 29, 2009 date be changed to December 29, 2009. It was also requested that the minutes be signed by Charles W. Totemoff, Chairman, instead of Michael J. Vigil, President. Without objection, the motion passed unanimously.

REPORTS

A. Acting Tribal Administrator

Deb Daisy presented her report to the Council.

Motion: Mr. Selanoff moved to approve the purchase of a Canon copier/printer/scanner for the Council Village Office. Mr. Vigil seconded the motion. This purchase is in place of the previously planned purchase of three new computers, which were found to already be in the Council's possession. Mr. Vigil reiterated he felt the Council does not need to be involved in the purchase of equipment and supplies. These procurements are administrative matters that can be handled by the Tribal Administrator. The motion was withdrawn

Mr. Vigil granted the Acting Tribal Administrator authority to use his signature stamp on purchasing documents with Arctic Office Supply for the acquisition of the Canon copier.

B. Tribal A dministrator

Brian Pillars presented his report to the Council.

Discussion pursued regarding the State Legislative funding request for a backhoe, service truck, road grader and funding for the planning, design and engineering for renovation of Community Center. Further discussion was tabled until later in the meeting.

C. Financial Report

Sarah Espelin, CPA, from Espelin & Associates, LLC, presented the financial report to the Council. There were no questions from the Council.

D. Grants

Deb Daisy presented her report to the Council providing them with updates on pending grants. No action was required at this time.

UNFINISHED BUSINESS

A. Interviews for Trib al Administrator position: P.J. Selanoff and Cheryl Eleshansky.

Ms. Daisy informed the Council that P.J. Selanoff would not be available until 1:00 pm for his interview. Cheryl Eleshansky was absent and unavailable for her interview on this day due to a family emergency. Her interview would have to be rescheduled at a later date.

B. Interview for Com munity Health Representative: Myra Eleshansky

Ms. Daisy informed the Council that Myra Eleshansky was unavailable for her interview due to a family emergency. Her interview would have to be rescheduled at a later date.

C. National Park Service: Questionnaire on Scope of Project for Iktua Bay Trail

Ms. Daisy requested the Council members to fill out the National Park Service's Trail Management Objectives Questionnaire with regards to the Iktua Bay Trail.

Heather Rice from the National Park Service was supposed to be available at this meeting to assist the Council members with filling out the forms. In her absence, Ms. Daisy was able to assist the Council members. She requested the Council members send their completed forms to her as soon as possible.

D. Budget for Drug Testing

Brian Pillars reported to the Council his findings on the drug and alcohol testing methods and the cost of administering these testing in the village. After much discussion it was decided that more information was needed regarding the methodology of the testing and the chain of custody of the samples. Maintaining objectivity, confidentiality and the integrity of the process is vitally important to the Council members. It was decided this topic would be revisited at the next Regular meeting of the Council.

The meeting was recessed for lunch at 12:08 p.m.by Chairman Totemoff. The meeting reconvened at 1:05 p.m.

NEW BUSINESS

A. VPSO Candidate Interviews: Decision on candidates to interview, set interview dates

Ms. Daisy referred the Council members to the VPSO Program Management section of their packets. Included was Draft Memorandum of Understanding, the VPSO Program Field Manual, and resumes and background information on three applicants: James Lolley, II, Brady Brookins and Richard Nelson. Ms. Daisy asked the Council of the three applicants, who they wanted to interview. Mr. Vigil said all three candidates should be afforded time with the Council. Mr. Vigil also requested the Council be given more time to review the applicants' information and their credentials and suggested a Special Meeting of the Council be held for these interviews.

It was decided a Special Meeting of the IRA Council would be held on Thursday, February 11, at 1:00 p.m. for purposes of interviewing the three VSPO applicants. At this same meeting, Cheryl Eleshansky's interview for the Tribal Administrator position and Myra Eleshansky's interview for the Community Health Representative position would be conducted as well.

- B. Interview with J.P. Selanoff for Tribal Administrator position
 - J.P. Selanoff was interviewed by the Council. He is seeking to fill the position of Tribal Administrator.
- C. Resolution 10-01: A resolution authorizing Chugachmiut to seek funding from the Alaska Mental Health Trust in the amount of \$10,000 for the development and implementation of activities designed to treat and prevent alcoholism in the Native Village of Chenega Bay
 - Mr. Vigil moved to approve Resolution 10-01. Richard Kompkoff seconded the motion. Without objection, the motion passed unanimously.
- D. Legislative Appropriations Requests: Prioritize, decide funding amounts

The Village is in need of a road grader, backhoe loader, a Utility Maintenance Truck with Crane, as well as planning, design and engineering funding for renovation of the Community Center. After some discussion, the Council prioritized these four needs in the following order:

- 1. Backhoe Loader
- 2. Road Grader
- 3. Utility Truck
- 4. Planning, design and engineering funding for renovation of the Community Center

Mr. Vigil moved to prioritize the State Capital Project Request in the order noted above. Don Kompkoff seconded the motion. Without objection, the motion passed unanimously.

E. Federal Legislative Priorities

Federal monies will be sought to fund three Village projects. Ms. Daisy asked if the Council agreed with the prioritization of these three projects as presented.

Mr. Vigil moved to prioritize the Federal Legislative projects in the following order:

- 1. Community Center Building Renovation Funding
- 2. Subdivision Road Construction
- 3. Chenega Bay Breakwater Funding

Don Kompkoff seconded the motion. Without objection, the motion passed unanimously.

SCHEDULE NEXT MEETING

The next Special Meeting of the Chenega IRA Council will be held on Thursday, February 11, at 1:00 p.m., at the Chenega Corporation offices in Anchorage with teleconference capability for those who cannot be in Anchorage.

ADJOURNMENT

THERE BEING NO FURTHER BUSINESS before the Council, Mr. Vigil moved to adjourn the meeting at 2:26 p.m. Richard Kompkoff seconded the motion. Without objection, the motion passed unanimously and the meeting was adjourned.

By:	
Charles W. Totemoff	
Chairman	
Attested by:	
Paul T. Selanoff	
Secretary	